

**EPA Superfund
Record of Decision:**

**TOBYHANNA ARMY DEPOT
EPA ID: PA5213820892
OU 02
TOBYHANNA, PA
09/27/1996**

RECORD OF DECISION

OPERABLE UNIT #2

TOBYHANNA ARMY DEPOT
TOBYHANNA, PENNSYLVANIA

September 1996

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ABBREVIATIONS AND ACRONYMS

AEC	US Army Environmental Center
AEHA	US Army Environmental Hygiene Agency
AOC	Area of Concern
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
COCs	Contaminants of Concern
DA	Department of the Army
DRMO	Defense Reutilization and Marketing Office
EPA	United States Environmental Protection Agency
FFA	Federal Facility Agreement
FS	Feasibility Study
ICR	Incremental Cancer Risk
mg/kg	Milligrams per kilogram
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
OU	Operable Unit
PADEP	Pennsylvania Department of Environmental Protection
PCB	Polychlorinated Biphenyls
PRAP	Proposed Remedial Action Plan
RBC	Risk-Based Concentration
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SWMU	Solid Waste Management Unit
TSCA	Toxic Substances Control Act
TYAD	Tobyhanna Army Depot
UCL	Upper Confidence Level
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
VS	Verification Study

DECLARATION FOR THE RECORD OF DECISION
REMEDIAL ALTERNATIVE SELECTION
FOR OPERABLE UNIT #2

Site Name and Location

Operable Unit No. 2
Area of Concern (AOC) 63
Tobyhanna Army Depot
Tobyhanna, Monroe County, Pennsylvania

Statement of Basis and Purpose

This decision document presents a determination that no further action is necessary to protect human health and the environment for Operable Unit No. 2 (OU2), the former

polychlorinated biphenyl (PCB) transformer substation site at the Tobyhanna Army Depot, Tobyhanna, Monroe County, Pennsylvania (TYAD). This determination was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300. This document was prepared as a joint effort between the U.S. Army, Pennsylvania Department of Environmental Protection (PADEP) and the Environmental Protection Agency (EPA). The no further action decision is supported by documents contained in the Administrative Record.

The Commonwealth of Pennsylvania concurs with this action.

Description of the Selected Remedy

A no further action alternative is the selected remedy for OU2. Additional sampling or monitoring will not be necessary because any potential unacceptable risks to human health or the environment have been addressed as part of the 1994 removal action. At this time, there are no future plans for the development of AOC #63. The area is currently zoned for industrial use and, as long as TYAD occupies the property, is expected to remain industrial. Because of the negligible risk, there is also no need for fencing or other controls to prevent access by TYAD employees to this area.

DECLARATION FOR THE RECORD OF DECISION
REMEDIAL ALTERNATIVE SELECTION
FOR OPERABLE UNIT #2

Declaration

The no further action remedy selection is based upon the confirmation sampling results which were found to be within the EPA's acceptable risk range. Therefore the selected remedy is protective of human health and the environment. Because This remedy will not result in hazardous substances remaining on-site above health-based levels, and the levels of hazardous substances remaining on-site will allow for unlimited use and unrestricted exposure, a five-year review will not be necessary for OU2.

Date

Greg A. Virgil
Colonel, U.S. Army
Commanding

Thomas C. Voltaggio
Director, Hazardous Waste
Management Division
EPA Region II

DECISION SUMMARY

1.0 INTRODUCTION

On July 14, 1989, the Tobyhanna Army Depot (TYAD) was proposed for inclusion to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List (NPL) and subsequently added to the final NPL on August 30, 1990. The Department of the Army (DA) has been granted the authority to be the lead agency at TYAD under Executive Order 12580 and CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA). The United States Environmental Protection Agency (EPA) and the Commonwealth of Pennsylvania have authority at TYAD as support agencies. The EPA Region III and the DA negotiated a comprehensive Federal Facility Agreement (FFA), which was signed by EPA on November 19, 1990, and became effective on January 19, 1991. The primary purpose of the FFA is to ensure that environmental impacts associated with past disposal activities at TYAD are thoroughly investigated, and appropriate CERCLA remedial action alternatives are developed and implemented to protect human health and the environment. The FFA has identified sixty-five (65) Areas of Concern (AOCs) within TYAD.

A CERCLA remedial action is often divided into operable units (OUs). As defined in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), an "operable unit means a discrete action that comprises an incremental step toward comprehensively addressing site problems. This discrete portion of a remedial response manages migration, or eliminates or mitigates a release, threat of a release, or pathway of exposure. The cleanup of a site can be divided into a number of operable units, depending on the complexity of the problems associated with the site. Operable units may address geographical portions of a site, specific site problems, or initial phases of an action, or may consist of any set of actions performed over time or any actions that are concurrent but located in different parts of a site." This Record of Decision (ROD) presents a determination that no further action is necessary to protect human health and the environment at Operable Unit No. 2 (OU2), which consists of AOC #63, the former PCB transformer substation site, located at Tobyhanna Army Depot, Tobyhanna, Pennsylvania. The no further action decision is the final action for OU2. Other OUs have been and will be defined by separate investigations.

The no further action decision is based on the results and findings of the 1996 Verification Study (VS) report, data collected as part of the 1994 time-critical removal action, and conclusions presented in the risk evaluation.

Based on the results of the risk evaluation, it was determined that OU2 poses no current or future potential, unacceptable human health risks. Additionally, any contaminants which may have migrated into the storm drainage system from OU2 will be addressed under the ongoing basewide ecological risk assessment. Therefore, the conditions at OU2 do not require further action to be protective of human health and the environment.

A feasibility study (FS), which normally develops and examines remedial action alternatives for a site, was not performed for OU2 since the results of the risk evaluation indicate that no further remedial action is required at AOC #63.

2.0 SITE NAME, LOCATION, AND DESCRIPTION

TYAD is located in Monroe County, Pennsylvania, approximately 15 miles southeast of Scranton, Pennsylvania, adjacent to the Village of Tobyhanna (Figure 1). Although the name and mission have changed since its inception in 1909, TYAD has always been a Government-owned and Government-operated facility. TYAD was used for field artillery training and ordnance storage during World War I. After several years of inactivity, TYAD was used as a training, equipment storage, and detention center during World War II. TYAD was again deactivated until construction of the current installation in the early 1950s.

TYAD now encompasses approximately 1,293 acres (2.2 square miles). As a communications-electronics maintenance and supply depot, the current function of TYAD is the design, fabrication, repair, and modification of a wide range of communications and electronics systems. These systems, which range in size from handheld radios to satellite communications ground terminals, are associated with navigation, aircraft survivability, surveillance, and electronics warfare.

Description of AOC #63

AOC #63 is a former electrical substation located at the corner of Squire and First Streets and

encompasses an area measuring 67 feet by 78 feet (Figure 2). AOC #63 is partially fenced and is bounded by the coal pile/heating plant to the south; additionally, several inches of coal cover much of the western and southwestern portions of this AOC. The former substation at AOC #63 served both the industrial and residential areas of TYAD from the early 1950s until 1980. AOC #63 included two transformers designated as "North Side" and "West Side". On April 15, 1980, the switch gear was struck by lightning and destroyed. As a result of the lightning strike and the age of the equipment, the substation was replaced by the substation located at the corner of Hap Arnold Boulevard and Squire Street.

Samples of oil from the two transformers, which from all records appear to have been in place since the substation began operation, were submitted for PCB analysis on March 11, 1991. Analytical results were reported as less than 0.05 milligrams per kilogram (mg/kg) and 6.4 mg/kg for the "North Side" and "West Side" transformers, respectively. Pursuant to 40 C.F.R. Part 761.3, both transformers would be classified as "non-PCB transformers" under the Toxic Substances Control Act (TSCA). Oil was drained from both transformers on January 29, 1993 and subsequently disposed in accordance with the requirements of 40 C.F.R. Part 761, Subpart D. The transformer "carcasses" were transferred by the Defense Reutilization and Marketing Office (DRMO) to Booth & Sons Scrap Yard, Inc., Moosic, PA and were transported offsite on May 20, 1993.

3.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES

In April 1987, EPA performed a preliminary review and visual site inspection to identify potential Solid Waste Management Units (SWMUs) and other areas of potential concern at TYAD (EPA, 1987). This study identified 52 SWMUs that were subsequently included as AOCs under the FFA. In March 1990, the U.S. Army Environmental Hygiene Agency (AEHA) also conducted an evaluation of SWMUs at TYAD (AEHA, 1990). This study identified 32 SWMUs which generally corresponded to those listed in the EPA report of April 1987. One of these SWMUs, the former PCB transformer substation site, is now designated as AOC #63.

In August 1989, AEHA conducted a hazardous waste management study of potential soil contamination at seven sites that were subsequently included as AOCs under the FFA (AEHA, 1989). One of these sites was the Electrical Substation, which is now designated AOC #63. The AEHA evaluated the Electrical Substation for possible contamination in the event that transformers had leaked PCBs to the surrounding soil. AEHA collected 26 soil samples at the Electrical Substation from a depth of 0 to 6 inches. The results from sampling revealed elevated levels of PCBs located adjacent to the west side of the central concrete pad. Analytical results from the AEHA study are located in Attachment 1.

In Summer 1992, the U.S. Army Toxic and Hazardous Materials Agency (later designated as the U.S. Army Environmental Center (AEC)) performed a Verification Study (VS) at eleven AOCs (AEC, 1996). AOC #63 was included as part of the VS. AEC collected additional samples from soil borings to a maximum depth of 10 feet in order to further investigate the horizontal and vertical extent of PCB contamination at AOC #63. Data collected during the VS confirmed that the PCB contamination had not migrated to significant depths. Analytical results from the VS are located in Attachment 2.

A technical meeting among representatives from the U.S. Army, EPA and PADEP was held on May 31, 1994 at Tobyhanna Army Depot. All participants agreed that a removal action could be performed as a time-critical removal for the PCB contaminated soil at AOC #63 (TYAD 1994).

Datom Products Environmental Division was awarded the contract for the time-critical removal of PCB-contaminated soil and concrete at AOC #63, as described in the Scope of Work dated August 24, 1994. The removal was initiated on September 6, 1994. Approximately 1.8 cubic yards of contaminated soil were excavated as part of this removal action. Additionally, concrete surfaces suspected of containing elevated levels of PCBs were decontaminated. All soil and waste from the decontamination procedures were containerized and turned in to DRMO for ultimate disposal at Chemical Waste Management, Emelle, Alabama on December 2, 1994.

Ten confirmation soil samples were collected from the excavated areas. With the exception of one sample, which exhibited low levels of PCBs (4.19 mg/kg), all results were below the detection limit of 2.0 mg/kg. Nine confirmation wipe samples were taken on the decontaminated concrete. All results were below the detection limit of 10.0 ug/100 cm² (10 micrograms of PCBs per 100 square centimeters of concrete). The removal was completed on November 1, 1994. Locations of confirmation sampling stations and analytical results from the excavated areas are presented in Attachment 3.

The U.S. Army and EPA, in consultation with PADEP, published the Administrative Record for the time-critical removal at AOC #63 on January 14, 1995 (TYAD & EPA, 1995). The Administrative Record supporting the time-critical removal action was available for public review and comment until February 12, 1995. No comments were received during the public comment period.

On May 16, 1996, TYAD sampled the areas where the highest concentrations of PCBs were located for chlorinated benzenes. In some transformers, chlorinated benzenes are used in addition to PCBs to make the oil in the transformers more fluid. Since no previous samples had been analyzed for chlorinated benzenes, at the recommendation of EPA, TYAD took four additional samples at AOC #63. The samples were taken at a depth of two feet, which was below the area that was excavated and filled with clean soil, to ensure that these compounds were not present at levels of concern. Analytical results are provided in Attachment 4 and did not indicate the presence any chlorinated benzenes above the laboratory detection limit.

Concentrations of residual PCBs on-site in both excavated and non-excavated areas range from below detection limits to a high of 9.89 mg/kg. (See Table 1). The elevated value of 9.89 is in an area which was excavated, but confirmation samples taken in that area could not be adequately documented. The remainder of the results are all below 5 mg/kg.

TABLE 1
RESIDUAL PCB LEVELS IN SOILS AT AOC #63

Sample ID	Aroclor 1016	Aroclor 1242	Aroclor 1260	Total PCBs Detected
1-001	<0.50	<0.50	<0.50	<1.50
1-002	<0.50	<0.50	<0.50	<1.50
1-003	<1.00	<1.00	<0.50	<2.50
1-004	<0.50	<0.50	<0.50	<1.50
T-6				<2.00
1-006	0.92	<0.50	1.04	1.96
1-007	<0.50	<0.50	0.60	0.60
1-008	<0.50	1.79	8.10	9.891
1-009	<0.50	<0.50	0.52	0.52
1-010	<0.50	<0.50	2.65	2.65
78				4.19/2.392
1-012	<0.50	<0.50	2.14	2.14
1-013	<0.50	<0.50	0.53	0.53
1-014	<0.50	<0.50	<0.50	<1.50
1-015	<0.50	<0.50	<0.50	<1.50
1-016	<0.50	<0.50	1.08	1.08
1-017	<0.50	<0.50	0.56	0.56
1-018	<0.50	<0.50	2.28	2.28
1-019	<0.50	<0.50	1.94	1.94
1-020	<0.50	<0.50	0.96	0.96
1-021	<0.50	<0.50	<0.50	<1.50
1-022	<0.50	<0.50	<0.50	<1.50
1-023	<0.50	<0.50	<0.50	<1.50
1-024	<0.50	<0.50	0.53	0.53
1-025	<0.50	<0.50	<0.50	<1.50
1-026	<0.50	<0.50	0.99	0.99
1-027	<0.80	<0.80	<0.80	<1.50

Notes: All concentrations in mg/kg.
Results with "<" were below laboratory detection limit.
Bold denotes concentration above detection limits.
1 - Sample taken prior to excavation. Confirmation sample after removal
could not be documented for this area.
2 - Result is from duplicate analysis

4.0 HIGHLIGHTS OF COMMUNITY PARTICIPATION

The Proposed Remedial Action Plan (PRAP) for OU2 was released to the public on August 20, 1996. This document is included in the Administrative Record file and was made available for public review at the following locations:

Coolbaugh Township Municipal Building
5500 Memorial Boulevard
Tobyhanna, Pennsylvania 18466
Phone: (717) 894-8490
Hours: 8:00 a.m. to 4:30 p.m.

Tobyhanna Army Depot
Public Affairs Office
11 Hap Arnold Boulevard, Building 11
Tobyhanna, Pennsylvania 18466-5076
Phone: (717) 895-6552
Hours: 7:30 a.m. to 4:00 p.m.

The notice of availability of the PRAP document was published in The Pocono Record on August 20, 1996. A public comment period was held from August 20, 1996 through September 20, 1996. In addition, a public meeting was held on September 18, 1996, to present the PRAP for OU2 and to answer questions and receive public comments. The public meeting minutes have been transcribed and a copy of the transcript is available to the public at the aforementioned locations. A Responsiveness Summary, included as part of this ROD, has been prepared to respond to the significant comments, criticisms, and any new relevant information received during the comment period. Upon signing the ROD, the Army will publish a notice of availability of this ROD in The Pocono Record, and place the ROD in the Administrative Record located in the repositories mentioned above.

5.0 SCOPE AND ROLE OF THE OPERABLE UNIT RESPONSE ACTION

To conduct investigation and cleanup activities more effectively, it is customary to manage each discrete portion of an NPL site as an operable unit (OU). For TYAD, OU1 corresponds to AOC #4 and AOC #7, which are collectively termed as Areas A and B. OU1 addresses the area of groundwater contamination which has migrated off-base. This ROD addresses TYAD AOC #63 as OU2. TYAD OU3 corresponds to AOC #37 and AOC #38, which are also referred to as Building 10-C and Building S-90, respectively. The ROD for OU3 was finalized on July 12, 1996. One or more additional OUs may be defined in the future for TYAD based on an evaluation of existing data.

EPA has reviewed the March 1996 USACHPPM risk evaluation for OU2 and has concurred with the Army's conclusion that the residual contamination found at the PCB transformer substation site does not pose unacceptable risks to workers or any potential future residents. Therefore, OU#2 is deemed to be already protective of human health and the environment.

6.0 SITE CHARACTERISTICS

6.1 SITE TOPOGRAPHY

TYAD lies in the southern New York section (locally termed the Pocono section) of the Appalachian Plateau Physiographic Province. The section is characterized by mature glaciated plateaus of moderate relief with broad intervening lowlands. Within TYAD, the relief varies over a range of approximately 220 feet (ft); the lowest elevation (1,930 ft) occurs south of Barney's Lake; whereas, the highest elevation (2,150 ft) occurs on Powder Smoke Ridge.

6.2 ADJACENT LAND USE

TYAD is bordered to the north, east, and west, by the Tobyhanna State Park Reserve (Figure 1). The area south of TYAD is owned by various residential property owners within the Village of Tobyhanna.

6.3 SURFACE WATER HYDROLOGY

Figure 3 shows the surface drainage features at TYAD. No through-flowing drainage ways exist on TYAD. Surface drainage, originating within TYAD, flows principally into Cross Keys Run, Barney's Lake, and Hummler

Run. Oakes Swamp receives drainage from the western and northern portions of TYAD and discharges to the north-northwest.

At OU2, a stormwater drain opening is located in the north corner of the former substation. A small drainage trough leads from OU2 to the drain opening. This stormwater drain flows into Barney's Lake.

6.4 GEOLOGY/HYDROGEOLOGY

The surficial deposits at OU2 consist of fill derived from glacial and alluvial deposits. The relatively flat topography was influenced by the construction of the industrial area of the Depot in the early 1950s. The depth of the fill is approximately 80 feet based on the contour mapping (USAEC-WES, 1996) inferred from the monitoring well construction logs at OU1, and the inactive sanitary landfill (AOC #1). The surface water from OU2 is collected by the storm drain system which drains through 48-inch pipe outlets to the Hummler Run Watershed.

The bedrock at OU2 belongs to the Poplar Gap Member of the Devonian Age Catskill Formation. The Poplar Gap Member consists of fine to medium grained sandstones. The contour elevations inferred by existing monitoring well data indicates that the top of bedrock would be at the 1930-foot elevation. The structural geology in the OU2 area is limited. The existing information (SEVON, 1975) indicates a low amplitude syncline axis located approximately 750 feet south of the OU2 area. The relatively low amplitude and limited information on structural features would not define groundwater flow as controlled by structure. The anticipated groundwater flow pattern in the upper bedrock would have a general south to south-east flow pattern.

6.5 ECOLOGY

With respect to ecology, OU2 has no wetlands, protected or endangered species, nor any other sensitive environments identified nearby. Any drainage from OU2 would have flowed into the nearby stormwater drain which eventually discharges into Barney's Lake. A basewide ecological risk assessment is underway at TYAD which will determine whether storm water drainage has had a significant impact on Barney's Lake.

7.0 SUMMARY OF SITE RISKS

7.1 Exposure Assessment

As part of the decision-making process for AOC #63, the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) completed a risk evaluation to determine the risks to humans posed by any PCB contamination remaining after the contaminated soil was removed (USACHPPM, 1996). The current and future use for this area is expected to remain industrial, and therefore the risk would be greatest to workers who may be exposed. However, USACHPPM also evaluated risk to future on-site residents even though residential use of the property in the future is not anticipated.

There are three potential routes of contaminant uptake for the considered populations - inhalation, ingestion, and dermal uptake. Of these routes, inhalation is not seen as having an opportunity to occur. PCBs do not readily volatilize from soil, due to binding tightly to the soil matrix. The presence of vegetation in the area mitigates any fugitive dust, which prevents inhalation of PCB-containing dust. This pathway was therefore not included in the exposure assessment and the risk evaluation. Dermal contact with PCBs is not viewed as presenting a likely threat given its relatively low dermal uptake factor (an assumed value by EPA Region III of approximately 6%). However, in its review of the risk evaluation, EPA did consider whether the dermal pathway would be expected to increase cancer risks beyond the NCP target risk range. EPA does not expect that to be the case; risks are expected to remain within 1×10^{-4} and 1×10^{-6} . Ingestion of PCBs from ground water is unlikely at this site due to the low remaining concentration in the soil and the low potential for PCB migration to ground water. The ground-water ingestion pathway has been eliminated as a result of this information. Only incidental soil ingestion is considered in the screening of the materials provided, because the pathway still exists for current and future site workers, and future onsite residents. (USACHPPM, 1996)

7.2 Toxicity Assessment

PCBs may be absorbed by all exposure routes. The liver, skin, and both the immune and endocrine

(hormones) systems are all considered target organs with chronic exposure to PCBs. Skin irritations, such as acne-like and rash-like symptoms, can occur in people exposed to PCBs. Liver, kidney, and skin damage occurs in rabbits after their skin has been repeatedly exposed, and single large dose exposures on the skin caused death in rabbits and mice. Studies in the workplace suggest that exposure to PCBs may also cause irritation of the nose and lungs. Rats and other animals which breathed PCBs over several months developed liver and kidney damage, but the levels necessary to produce these effects were high.

Worker studies do not provide enough information to determine if PCBs cause cancer in humans. Rats that ate fixed amounts of PCBs throughout their lives developed cancer in their lifetimes. Based on the cancer data in animals, the USEPA has determined that PCBs are probable human carcinogens. (USACHPPM, 1996)

7.3 Risk Evaluation

Due to the site's small size and PCBs being the lone contaminant of concern (COC), the risk evaluation for AOC #63 was conducted using a variation on the traditional methodology used in a baseline risk assessment. In this characterization, the USEPA Region III Risk-Based Concentration (RBC) Table (USEPA, July-December 1995) was used to screen the soil PCB levels for human receptors. The table was used to screen for potential cancer risk (the more conservative endpoint) in both a present and future commercial/industrial and future residential scenario. Specifically, the table's reported concentrations in soil that correspond to a 1×10^{-6} (i.e., one in one million) incremental cancer risk (ICR) due to site exposure were used.

In order to determine the ICR due to the residual contamination left onsite, a 95 percent Upper Confidence Level (UCL) of the sampling mean was calculated for use as the average PCB concentration. The 95 percent UCL is defined as a value that, when calculated repeatedly for randomly drawn subsets of site data, equals or exceeds the true mean 95 percent of the time. As a result, the 95 percent UCL is a conservative estimate of the average PCB concentrations remaining at this site. The 95 percent UCL for this site was calculated to be 2.15 mg/kg (Table 1). This number is divided by the RBC value for the commercial/industrial and residential user, and then multiplied by 1×10^{-6} (one millionth) to present the potential carcinogenic risk posed by exposure to this concentration of PCBs, which is based on the 1×10^{-6} cancer risk used in the RBC tables. For AOC #63, the carcinogenic risk for industrial exposure is 2.9×10^{-6} and for residential exposure the risk is 2.6×10^{-5} (Table 2). These values are within EPA's acceptable target risk range of 1×10^{-4} to 1×10^{-6} . (USACHPPM, 1996)

Data Validation

With the exception of sampling point 78, all sampling data used in the calculation of the 95 percent UCL were validated according to the Tobyhanna Army Depot, Monitor/Residential Well Sampling Program and Verification Studies - Quality Assurance Project Plan, ELIN A009. Wayne Analytical & Environmental Services, Inc. performed the analysis for sampling point 78. A duplicate and spike were performed on every tenth soil sample analyzed by Wayne. The duplicate result for sampling point 78 was 2.39 mg/kg of PCB versus the original result of 4.19 mg/kg. The higher result was used in the calculation of the 95 percent UCL. The soil sample for location 78 was analyzed using EPA Method 8080 in accordance with EPA's Test Methods for Evaluating Solid Waste Manuals (SW-846). (USACHPPM, 1996)

TABLE 2
95 Percent UCL Calculations for Tobyhanna AOC #63 (OU2)

The 95 percent UCL on the sampling mean calculation results are presented below and were developed using the USEPA Supplemental Guidance to RAGS: Calculating the Concentration Term. All non-detect samples were accounted for by using half the detection limit in the 95 percent UCL calculation. The 95 percent UCL on the sampling mean is the most representative of the concentration that would be contacted at the site.

Sample ID	Aroclor 1016	Aroclor 1242	Aroclor 1260	subtotal Per Sample	
1-001	0.25	0.25	0.25	0.75	-0.29
1-002	0.25	0.25	0.25	0.75	-0.29
1-003	0.50	0.50	0.25	1.25	0.22
1-004	0.25	0.25	0.25	0.75	-0.29
T-6				1.00	0.00
1-006	0.92	0.25	1.04	2.21	0.79
1-007	0.25	0.25	0.60	1.10	0.10
1-008	0.25	1.79	8.10	10.14	2.32
1-009	0.25	0.25	0.52	1.02	0.02
1-010	0.25	0.25	2.65	3.15	1.15
78				4.19	1.43
1-012	0.25	0.25	2.14	2.64	0.97
1-013	0.25	0.25	0.53	1.03	0.03
1-014	0.25	0.25	0.25	0.75	-0.29
1-015	0.25	0.25	0.25	0.75	-0.29
1-016	0.25	0.25	1.08	1.58	0.46
1-017	0.25	0.25	0.56	1.06	0.06
1-018	0.25	0.25	2.28	2.78	1.02
1-019	0.25	0.25	1.94	2.44	0.89
1-020	0.25	0.25	0.96	1.46	0.38
1-021	0.25	0.25	0.25	0.75	-0.29
1-022	0.25	0.25	0.25	0.75	-0.29
1-023	0.25	0.25	0.25	0.75	-0.29
1-024	0.25	0.25	0.53	1.03	0.03
1-025	0.25	0.25	0.25	0.75	-0.29
1-026	0.25	0.25	0.99	1.49	0.40
1-027	0.40	0.40	0.40	1.20	0.18
All concentrations in mg/kg					
Transformed Data Mean					0.29
Standard deviation of Transformed Data					0.64
Number of Samples					27.00
H-statistic					2.13
95 Percent UCL (mg/kg)					2.15

Table 2
ICR VALUE CALCULATIONS
TOBYHANNA ARMY DEPOT
TOBYHANNA, PENNSYLVANIA

COMMERCIAL/INDUSTRIAL SOIL (mg/kg):

$$\begin{array}{l} 2.15 \text{ mg/kg} \\ \quad \times 10^{-6} = 2.90 \times 10^{-6} = 2.9 \times 10^{-6} \\ 0.74 \text{ mg/kg} \end{array}$$

RESIDENTIAL SOIL (mg/kg):

$$\begin{array}{l} 2.15 \text{ mg/kg} \\ \quad \times 10^{-6} = 2.59 \times 10^{-5} = 2.6 \times 10^{-5} \\ 0.083 \text{ mg/kg} \end{array}$$

Notes:

- A 2.15 mg/kg represents the 95 percent UCL of the mean PCB concentration detected in soils
- A 0.74 mg/kg is the RBC value for commercial/industrial soil
- A 0.083 mg/kg is the RBC value (combining adult and child) for residential soil
- A 10^{-6} is a multiplier to convert the fraction to an ICR value

ICR = Incremental Cancer Risk

Source: USEPA, Region III Risk-Based Concentration Table (July-December 1995).

7.4 Conclusion

Current and future site workers and future on-site residents were considered to be the populations most at risk. It was assumed that each of these populations could potentially contact PCB-contaminated soils through incidental soil ingestion. Based on the EPA Region III commercial/industrial soil RBC, a cancer risk of 2.9×10^{-6} was estimated for current and future site workers. Based on the residential soil RBC, a risk value of 2.6×10^{-5} was calculated for potential exposure to PCBs by future residents (both adults and children).

For Superfund sites, EPA generally considers cancer risks from 1×10^{-6} to 1×10^{-4} to be acceptable. Because the Tobyhanna OU2 risks are within this range, EPA has concurred with the Army's conclusion that the residual contamination found at AOC #63 does not pose unacceptable risks to workers or potential future residents. Furthermore, significant ecological effects are not expected to occur because of the small size of AOC #63, its distance from critical habitats, and the relative immobility of PCBs. Prior to the removal, surface drainage from this area which may have contained PCBs would have flowed into the nearby stormwater drain. This drain eventually discharges into Barney's Lake. The Army is currently conducting a basewide ecological risk assessment at TYAD to determine whether storm water drainage has had any ecological impact on the lake.

In summary, further response actions at AOC #63 are deemed unnecessary to protect human health and the environment. In addition, the residual PCB levels are within cleanup standards established by Pennsylvania's Land Recycling Act of 1995, Act 2.

8.0 DESCRIPTION OF THE "NO FURTHER ACTION" ALTERNATIVE

The preferred alternative for AOC #63 is the No Further Action Alternative. Additional sampling or monitoring will not be necessary because any environment have been addressed as part of the removal action. At the time of this ROD, there are no future plans for development of AOC #63. The area is currently zoned for industrial use, and as long as TYAD occupies the property, is expected to remain industrial. Because of the negligible risk, there is also no need for fencing or other controls to prevent access by TYAD employees to this area. It is highly unlikely that this site would be used as a residential area; however, if this were to occur in the future, the risk evaluation shows that residual PCB levels are also within acceptable risk ranges for residential scenarios. Project Managers from the Army, EPA and PADEP collectively developed this ROD and concur with this decision. This alternative will have no associated costs.

9.0 RESPONSIVENESS SUMMARY

The purpose of the Responsiveness Summary is to provide the public with a summary of citizen comments, concerns, and questions about OU2.

No written comments were received during the 30 day public comment period. In addition, no verbal comments were presented during the September 18, 1996 public meeting regarding OU2.

10.0 REFERENCES

U.S. Environmental Protection Agency, Region III. 1987. Phase II RCRA Facility Assessment for the Tobyhanna Army Depot, May 1987.

U.S. Army Environmental Hygiene Agency. 1989. Hazardous Waste Management Study No. 37-2608800-90 Investigation of Potential Soil Contamination at the Elecrical Substation No. 26 and Used Oil/Solvent Storage Areas, Tobyhanna Army Depot, Tobyhanna, Pennsylvania, 21-24 August 1989.

U.S. Army Environmental Hygiene Agency. 1990. Ground-Water Quality Survey No. 38-26-K914-90. Evaluation of Solid Waste Management Units, Tobyhanna Army Depot, Tobyhanna, Pennsylvania, 26-30 March 1990.

U.S. Army Environmental Center. 1993. Tobyhanna Army Depot, Monitor/Residential Well Sampling Program and Verification Studies Technical Report, ELIN A009, February 29, 1996.

Tobyhanna Army Depot. 1994. Memorandum for Record, Installation Restoration Program Meeting, June 10, 1994.

Tobyhanna Army Depot and U.S. Environmental Protection Agency, Region III. 1995. Notice of Availability of the Administrative Record for Time-Critical Removal Action at Operable Unit No. 2.

U.S. Environmental Protection Agency, Region III. 1995. Risk-Based Concentration Table, July-December 1995, October 20, 1995.

U.S. Army Center for Health Promotion and Preventive Medicine. 1996. Draft Final Risk Evaluation Study No. 39-EJ-4330-96, Old Electrical Substation (AOC-63), Tobyhanna Army Depot, Pennsylvania, 28 March 1996.

U.S. Department of the Army. Response to U.S. Environmental Protection Agency Region III Comments on Tobyhanna OU2 Draft Final Risk Evaluation. Correspondence from Craig Coffman, Project Manager, Environmental Management Division, Tobyhanna Army Depot. May 30, 1996.

TABLE C-1

POLYCHLORINATED BIPHENYL ANALYTICAL RESULTS - SOIL SAMPLES

		SAMPLE NUMBERS (RESULTS REPORTED IN ug/g)																											
CHEMICAL COMPOUND																													
quantitation limit (x)= ug/g		1-001:	1-001:	1-003:	1-004:	1-005:	1-006:	1-007:	1-008:	1-009:	1-010:	1-011:	1-012:	1-013:	1-014:														
AROCLOR 1016	:0.5 :	ND	:	ND	:	ND	:	ND	:	0.92	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:
AROCLOR 1221	:0.5 :	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:
AROCLOR 1232	:0.5 :	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:
AROCLOR 1242	:0.5 :	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	1.79	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:
AROCLOR 1248	:0.5 :	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:
AROCLOR 1254	:0.5 :	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:
AROCLOR 1260	:0.5 :	ND	:	ND	:	ND	:	6.13	:	1.04	:	0.6	:	8.1	:	0.52	:	2.65	:	5300	:	2.14	:	0.53	:	ND	:		:

All reported results are in units of ug/g
ND = Compound was analyzed for but not detected above quantitation limit
- = Sample was not analyzed for the compound
x Detection limits on Samples 1-003 and 1-011 were raised due to matrix interferences.
 (1-003= Detection limits for AROCLOR 1254 and 1260 are 0.50 ug/g, all others are 1.00 ug/g
 (1-011= All detection limits are 50.0 ug/g)

TABLE C-2

POLYCHLORINATED BIPHENYL ANALYTICAL RESULTS - SOIL SAMPLES

CHEMICAL COMPOUND		SAMPLE NUMBERS (RESULTS REPORTED IN ug/g)																	
quantitation limit (x)= ug/g		:	1-015:	1-016:	1-017:	1-018:	1-019:	1-020:	1-021:	1-022:	1-023:	1-024:	1-025:	1-026:	1-027:	:			
AROCLOR 1016		:0.5	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:
AROCLOR 1221		:0.5	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:
AROCLOR 1232		:0.5	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:
AROCLOR 1242		:0.5	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:
AROCLOR 1248		:0.5	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:
AROCLOR 1254		:0.5	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:	ND	:
AROCLOR 1260		:0.5	:	ND	:	1.08	:	0.56	:	2.28	:	1.94	:	0.96	:	ND	:	ND	:

All reported results are in units of ug/g
ND = Compound was analyzed for but not detected above quantitation limit
- = Sample was not analyzed for the compound
x Detection limits on Sample 1-027 were raised to 0.80 ug/g

Summary Report Target Compounds
PCB Transformers
Tobyhanna Army Depot
Tobyhanna, Pennsylvania

Parameter				Printed 12/12/95 5:19:53pm Page: 1-1				
Sample ID				BORE63-1A	BORE63-1A	BORE63-1C	BORE63-2A	BORE63-2A
Sample Type				SURFACE/SUBSURF	SURFACE/SUBSURF	SURFACE/SUBSURF	SURFACE/SUBSURF	SURFACE/SUBSURF
Sample Depth (feet)				0.0	2.0	4.0	1.0	1.0
Sample Date	Units	Method/ Lab	CRL or [CRQL]	09/02/92	09/02/92	09/02/92	09/25/92	09/25/92
PCBS								
PCB 1016 PCB016	UGG	LH17 UB	0.1	<0.100	<0.100	<0.100	<0.100	<0.100
PCB 1221 PCB221	UGG	LH17 UB	{0.1}	*0.100 (R)	*0.100 (R)	*0.100 (R)	*0.100 (R)	*0.100 (R)
PCB 1232 PCB232	UGG	LH17 UB	{0.1}	*0.100 (R)	*0.100 (R)	*0.100 (R)	*0.100 (R)	*0.100 (R)
PCB 1242 PCB242	UGG	LH17 UB	{0.1}	*0.100 (R)	*0.100 (R)	*0.100 (R)	*0.100 (R)	*0.100 (R)
PCB 1248 PCB248	UGG	LH17 UB	{0.1}	*0.100 (R)	*0.100 (R)	*0.100 (R)	*0.100 (R)	*0.100 (R)
PCB 1254 PCB254	UGG	LH17 UB	{0.1}	*0.479 (R)	*0.479 (R)	*0.479 (R)	*0.479 (R)	*0.479 (R)
PCB 1260 PCB260	UGG	LH17 UB	0.0479	<0.479	<0.479	<0.479	<0.479	<0.479

Flag Codes: R - Non-target compound analyzed but no detected.

Key: {}: Data Qualifiers (): Flag Codes CRL: Certified Reporting Limit
NA: Not Available <: Less than CRL *: Not detected

Summary Report Target Compounds
PCB Transformers
Tobyhanna Army Depot
Tobyhanna, Pennsylvania

Parameter				Printed 12/12/95		5:19:53pm	Page: 2-1	
Sample ID				BORE63-2B	BORE63-3A	BORE63-3B	BORE63-3C	BORE63-4A
Sample Type				SURFACE/SUBSURF	SURFACE/SUBSURF	SURFACE/SUBSURF	SURFACE/SUBSURF	SURFACE/SUBSURF
Sample Depth (feet)		Method/	CRL or	2.0	0.5	1.0	2.0	0.0
Sample Date	Units	Lab	[CRQL]	09/25/92	09/28/92	09/28/92	09/28/92	09/01/92
PCBS								
PCB 1016	UGG	LH17	0.1	<0.100	<0.100	<0.100	<0.100	<0.100
PCB016		UB						
PCB 1221	UGG	LH17	{0.1}	*0.100	*0.100	*0.100	*0.100	*0.100
PCB221		UB		(R)	(R)	(R)	(R)	(R)
PCB 1232	UGG	LH17	{0.1}	*0.100	*0.100	*0.100	*0.100	*0.100
PCB232		UB		(R)	(R)	(R)	(R)	(R)
PCB 1242	UGG	LH17	{0.1}	*0.100	*0.100	*0.100	*0.100	*0.100
PCB242		UB		(R)	(R)	(R)	(R)	(R)
PCB 1248	UGG	LH17	{0.1}	*0.100	*0.100	*0.100	*0.100	*0.100
PCB248		UB		(R)	(R)	(R)	(R)	(R)
PCB 1254	UGG	LH17	{0.1}	*0.479	*0.479	*0.479	*0.479	*0.479
PCB254		UB		(R)	(R)	(R)	(R)	(R)
PCB 1260	UGG	LH17	0.0479	<0.479	<0.479	<0.479	<0.479	<0.479
PCB260		UB						

Flag Codes: R - Non-target compound analyzed but no detected.

Key: {}: Data Qualifiers (): Flag Codes CRL: Certified Reporting Limit
NA: Not Available <: Less than CRL *: Not detected

Summary Report Target Compounds
PCB Transformers
Tobyhanna Army Depot
Tobyhanna, Pennsylvania

Parameter				Printed 12/12/95		5:19:53pm	Page: 3-1	
Sample ID				BORE63-4B	BORE63-4B	BORE63-4C	BORE63-5A	BORE63-5B
Sample Type				SURFACE/SUBSURF	SURFACE/SUBSURF	SURFACE/SUBSURF	SURFACE/SUBSURF	SURFACE/SUBSURF
Sample Depth (feet)		Method/	CRL or	2.0	2.0	4.0	0.0	1.0
Sample Date	Units	Lab	[CRQL]	09/01/92	09/01/92	09/01/92	09/25/92	09/25/92
PCBS								
PCB 1016	UGG	LH17	0.1	<0.100	<0.100	<0.100	<0.100	<0.100
PCB016		UB						
PCB 1221	UGG	LH17	{0.1}	*0.100	*0.100	*0.100	*0.100	*0.100
PCB221		UB		(R)	(R)	(R)	(R)	(R)
PCB 1232	UGG	LH17	{0.1}	*0.100	*0.100	*0.100	*0.100	*0.100
PCB232		UB		(R)	(R)	(R)	(R)	(R)
PCB 1242	UGG	LH17	{0.1}	*0.100	*0.100	*0.100	*0.100	*0.100
PCB242		UB		(R)	(R)	(R)	(R)	(R)
PCB 1248	UGG	LH17	{0.1}	*0.100	*0.100	*0.100	*0.100	*0.100
PCB248		UB		(R)	(R)	(R)	(R)	(R)
PCB 1254	UGG	LH17	{0.1}	*0.479	*0.479	*0.479	*0.479	*0.479
PCB254		UB		(R)	(R)	(R)	(R)	(R)
PCB 1260	UGG	LH17	0.0479	<0.479	<0.479	<0.479	0.159	<0.479
PCB260		UB			(D)		(C)	

Flag Codes: C - Confirmed on second column.

D - Duplicate Sample.

R - Non-target compound analyzed but no detected.

Key: {}: Data Qualifiers (): Flag Codes CRL: Certified Reporting Limit
NA: Not Available <: Less than CRL *: Not detected

Summary Report Target Compounds
PCB Transformers
Tobyhanna Army Depot
Tobyhanna, Pennsylvania

Parameter				Printed 12/12/95		5:19:53pm	Page: 4-1	
Sample ID				BORE63-6A	BORE63-6B	BORE63-6C	BORE63-7A	BORE63-7B
Sample Type				SURFACE/SUBSURF	SURFACE/SUBSURF	SURFACE/SUBSURF	SURFACE/SUBSURF	SURFACE/SUBSURF
Sample Depth (feet)		Method/	CRL or	0.0	2.0	4.0	0.5	1.0
Sample Date	Units	Lab	[CRQL]	09/02/92	09/01/92	09/01/92	09/28/92	09/28/92
PCBS								
PCB 1016	UGG	LH17	0.1	<0.100	<0.100	<0.100	<0.100	<0.100
PCB016		UB						
PCB 1221	UGG	LH17	{0.1}	*0.100	*0.100	*0.100	*0.100	*0.100
PCB221		UB		(R)	(R)	(R)	(R)	(R)
PCB 1232	UGG	LH17	{0.1}	*0.100	*0.100	*0.100	*0.100	*0.100
PCB232		UB		(R)	(R)	(R)	(R)	(R)
PCB 1242	UGG	LH17	{0.1}	*0.100	*0.100	*0.100	*0.100	*0.100
PCB242		UB		(R)	(R)	(R)	(R)	(R)
PCB 1248	UGG	LH17	{0.1}	*0.100	*0.100	*0.100	*0.100	*0.100
PCB248		UB		(R)	(R)	(R)	(R)	(R)
PCB 1254	UGG	LH17	{0.1}	*0.479	*0.479	*0.479	*0.479	*0.479
PCB254		UB		(R)	(R)	(R)	(R)	(R)
PCB 1260	UGG	LH17	0.0479	<0.479	<0.479	<0.479	<0.479	<0.479
PCB260		UB						

Flag Codes: R - Non-target compound analyzed but no detected.

Key: {}: Data Qualifiers (): Flag Codes CRL: Certified Reporting Limit
NA: Not Available <: Less than CRL *: Not detected

ATTACHMENT 3

MOHAN PALAT

TEL:12156887485

Oct 18 94 14:11 No.005 P.01

WAYNE ANALYTICAL & ENVIRONMENTAL
SERVICES, INC.992 Old Eagle School Rd.
Wayne, PA 19087

(610) 688-7485

TEST REPORT

Dept. of Contracting
Tobyhanna Army Depot
11 Midway Road
Tobyhanna, PA 18466-5100
Attn: Mary VaccolaWAS : 16898-16905
Sample received: 10/17/94
Report date : 10/18/94Sub: Total 8 PCB Samples: 5 Wipe Samples + 3 Soil Samples.
Project AOC-63.

Analyst: Harry Golf

WAS No.	Source ID	Parameter	Method	MDL	Concentration
*****WIPE SAMPLES*****					
16898	95-20 #73	PCB	8080	10.0	ND
16899	95-21 #74	PCB	8080	10.0	ND
16900	95-22 #75	PCB	8080	10.0	ND
16901	95-23 #76	PCB	8080	10.0	ND
16902	95-24 #77	PCB	8080	10.0	ND
*****SOIL SAMPLES*****					
16903	95-25 #78	PCB	8080	2.00	4.19
16904	95-26 #79	PCB	8080	2.00	ND
16905	95-27 #80	PCB	8080	2.00	ND

* Wipe values are in "micrograms / 100 Square centimeters".
Wipe Area confirming at 100 Square Centimeters = 10 cm x 10 cm.

Soil sample results are mg./Kg. or ppm.

ND = Non-Detected or less than specified MDL = "Method Detection
Limit".

Rebecca A. Palat
10/18/94

WAYNE ANALYTICAL & ENVIRONMENTAL
SERVICES, INC.992 Old Eagle School Rd.
Wayne, PA 19087

(610) 688-7485

TEST REPORT

Dept. of Contracting
Tobyhanna Army Depot
11 Midway Road
Tobyhanna, PA 18466-5100
Attn: Mary VaccolaWAS : 16903
Sample received: 10/17/94
Report date : 10/24/94Sub: Total 1 PCB, Soil Sample. Duplicate Analysis.
Project AOC-63.

Analyst: Harry Golf

WAS No.	Source ID	Parameter	Method	MDL	Concentration
*****SOIL SAMPLES*****					
16903	95-25 #78	PCB	8080	2.00	2.39 Duplicate

* Soil sample results are mg./Kg. or ppm.
Original analysis run 10/18/94, Original result = 4.19 ppm.

ND = Non-Detected or less than specified MDL = "Method
Detection Limit".

Rebecca A. Palat
10/24/94

WAYNE ANALYTICAL & ENVIRONMENTAL
SERVICES, INC.992 Old Eagle School Rd.
Wayne, PA 19087

(610) 688-7485

TEST REPORT

Dept. of Contracting
Tobyhanna Army Depot
11 Midway Road
Tobyhanna, PA 18466-5100
Attn: Mary VaccolaWAS : 17929
Sample received: 10/31/94
Report date : 11/01/94

Sub: Total 1 PCB Sample: AOC-63; Station No. 81

Analyst: Harry Golf

WAS No.	Source ID	Parameter	Method	MDL	Concentration
*****WIPE SAMPLES*****					
17929	95-31 #81	PCB	8080	10.0	ND

* Wipe values are in "micrograms / 100 Square centimeters".
Wipe Area confirming at 100 Square Centimeters = 10 cm x 10 cm.

Rebecca A. Palat
11/01/94

ATTACHMENT 4

EASTERN LABORATORY SVC. 717 846 4953

P.01

 EASTERN
LABORATORY
SERVICE
ASSOCIATES

Established in 1959

FINAL REPORT OF ANALYSIS

COMMANDER TOBYHANNA ARMY DEPORT
ATTN: SDSTO-EH-O WENDY GROSS
11 HAP ARNOLD BLVD.
TOBYHANNA, PA 18466

PROJECT: 94-C-0003
REPORT DATE: 06/10/96

SAMPLE NUMBER-3879

SAMPLE ID-96-115 SOIL SUBSTATION #1

DATE SAMPLED-05/16/96
DATE RECEIVED-05/28/96
TIME RECEIVED-1128

SAMPLE MATRIX-SO
SAMPLER-CL
DELIVERED BY-GREYHOUND

ANALYSIS	METHOD	SAMPLE PREP DATE BY	ANALYSIS DATE BY	RESULT UNIT
MOISTURE	EPA 160.3		05/28/96 AB	7.7 %
TARGET COMPOUND LIST VOLATILES				
	3/90 SOW		06/05/96 AB	
CHLOROBENZENE				<6.0 UG/KG
TARGET COMPOUND LIST SEMIVOLATILES			06/05/96 AB	
O-DICHLOROBENZENE				<6.0 UG/KG
M-DICHLOROBENZENE				<6.0 UG/KG
P-DICHLOROBENZENE				<6.0 UG/KG
HEXACHLOROBENZENE				<6.0 UG/KG
1,2,4-TRICHLOROBENZENE				<6.0 UG/KG
1,2,3-TRICHLOROBENZENE				<6.0 UG/KG
1,2,4,5-TETRACHLOROBENZENE				<6.0 UG/KG
PENTACHLOROBENZENE				<6.0 UG/KG

LABORATORY MANAGER

 EASTERN
LABORATORY
SERVICE
ASSOCIATES

Established in 1959

FINAL REPORT OF ANALYSIS

COMMANDER TOBYHANNA ARMY DEPORT
ATTN: SDSTO-EH-O WENDY GROSS
11 HAP ARNOLD BLVD.
TOBYHANNA, PA 18466

PROJECT: 94-C-0003
REPORT DATE: 06/10/96

SAMPLE NUMBER-3880

SAMPLE ID-96-116 SOIL SUBSTATION #2

DATE SAMPLED-05/16/96
DATE RECEIVED-05/28/96
TIME RECEIVED-1128

SAMPLE MATRIX-SO
SAMPLER-CL
DELIVERED BY-GREYHOUND

ANALYSIS	METHOD	SAMPLE PREP DATE BY	ANALYSIS DATE BY	RESULT UNIT
MOISTURE	EPA 160.3		05/28/96 AB	10.4 %
TARGET COMPOUND LIST VOLATILES				
	3/90 SOW		06/05/96 AB	
CHLOROBENZENE				<6.0 UG/KG
TARGET COMPOUND LIST SEMIVOLATILES				
			06/05/96 AB	
O-DICHLOROBENZENE				<6.0 UG/KG
M-DICHLOROBENZENE				<6.0 UG/KG
P-DICHLOROBENZENE				<6.0 UG/KG
HEXACHLOROBENZENE				<6.0 UG/KG
1,2,4-TRICHLOROBENZENE				<6.0 UG/KG
1,2,3-TRICHLOROBENZENE				<6.0 UG/KG
1,2,4,5-TETRACHLOROBENZENE				<6.0 UG/KG
PENTACHLOROBENZENE				<6.0 UG/KG

LABORATORY MANAGER

 EASTERN
LABORATORY
SERVICE
ASSOCIATES

Established in 1959

FINAL REPORT OF ANALYSIS

COMMANDER TOBYHANNA ARMY DEPORT
ATTN: SDSTO-EH-O WENDY GROSS
11 HAP ARNOLD BLVD.
TOBYHANNA, PA 18466

PROJECT: 94-C-0003
REPORT DATE: 06/10/96

SAMPLE NUMBER-3881

SAMPLE ID-96-117 SOIL SUBSTATION #3

DATE SAMPLED-05/16/96
DATE RECEIVED-05/28/96
TIME RECEIVED-1128

SAMPLE MATRIX-SO
SAMPLER-CL
DELIVERED BY-GREYHOUND

ANALYSIS	METHOD	SAMPLE PREP DATE BY	ANALYSIS DATE BY	RESULT UNIT
MOISTURE	EPA 160.3		05/28/96 AB	10.1 %
TARGET COMPOUND LIST VOLATILES				
	3/90 SOW		06/05/96 AB	
CHLOROBENZENE				<5.0 UG/KG
TARGET COMPOUND LIST SEMIVOLATILES			06/05/96 AB	
O-DICHLOROBENZENE				<5.0 UG/KG
M-DICHLOROBENZENE				<5.0 UG/KG
P-DICHLOROBENZENE				<5.0 UG/KG
HEXACHLOROBENZENE				<5.0 UG/KG
1,2,4-TRICHLOROBENZENE				<5.0 UG/KG
1,2,3-TRICHLOROBENZENE				<5.0 UG/KG
1,2,4,5-TETRACHLOROBENZENE				<5.0 UG/KG
PENTACHLOROBENZENE				<5.0 UG/KG

LABORATORY MANAGER

 EASTERN
LABORATORY
SERVICE
ASSOCIATES

Established in 1959

FINAL REPORT OF ANALYSIS

COMMANDER TOBYHANNA ARMY DEPORT
ATTN: SDSTO-EH-O WENDY GROSS
11 HAP ARNOLD BLVD.
TOBYHANNA, PA 18466

PROJECT: 94-C-0003
REPORT DATE: 06/10/96

SAMPLE NUMBER-3882

SAMPLE ID-96-118 SOIL SUBSTATION #4

DATE SAMPLED-05/16/96
DATE RECEIVED-05/28/96
TIME RECEIVED-1128

SAMPLE MATRIX-SO
SAMPLER-CL
DELIVERED BY-GREYHOUND

ANALYSIS	METHOD	SAMPLE PREP DATE BY	ANALYSIS DATE BY	RESULT UNIT
MOISTURE	EPA 160.3		05/28/96 AB	8.0 %
TARGET COMPOUND LIST VOLATILES	3/90 SOW		06/05/96 AB	
CHLOROBENZENE				<5.0 UG/KG
TARGET COMPOUND LIST SEMIVOLATILES			06/05/96 AB	
O-DICHLOROBENZENE				<5.0 UG/KG
M-DICHLOROBENZENE				<5.0 UG/KG
P-DICHLOROBENZENE				<5.0 UG/KG
HEXACHLOROBENZENE				<5.0 UG/KG
1,2,4-TRICHLOROBENZENE				<5.0 UG/KG
1,2,3-TRICHLOROBENZENE				<5.0 UG/KG
1,2,4,5-TETRACHLOROBENZENE				<5.0 UG/KG
PENTACHLOROBENZENE				<5.0 UG/KG

LABORATORY MANAGER